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REPORT NO. 86-19

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NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
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THE SHIPBOARD INDEPENDENT DUTY HOSPITAL CORPSMAN II: THE OPTIMAL CAREER PIPELINE

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Report No. 86-19, supported by the Naval Medical Research and Development Command, Department of the Navy, under Work Unit No. 65152N M0106.001.0002. The views expressed in this report are those of the authors and do not reflect the official policy or position of the Department of the Navy, Department of Defense, nor the U.S. Government.

SUMMARY

The position of shipboard independent duty hospital corpsman (IDC) is perhaps the most responsible enlisted position in the Armed Forces. IDCs provide health services to as many as 300 or more crew members without the direct supervision of a physician. They are also responsible for the occupational health and preventive medicine programs aboard ship. The complexity and scope of job responsibilities accorded IDCs would seem to warrant creation of an organization-level enlisted career development program. Despite the fact that careful career development planning has been shown to have beneficial impact on productivity and personnel retention, the Navy has focused its organization-level career development programs primarily on officers; enlisted career development has been generally left to the individual. The current report provides a career development pipeline for IDCs that would enable the Navy organization to improve the management of IDC careers, and would thereby ensure that the highest quality of training and experience would be maintained.

The IDC career development pipeline described in this report was based primarily on the survey responses of 37% of the IDCs serving aboard ship during 1985 (N=355). Data reflected that corpsmen were attracted to IDC duty for one of two primary reasons: (a) patient care involvement, or (b) career promotion. Personality was also shown to be a factor in achieving good person-job fit. IDCs with high levels of health service delivery orientation as measured on the Hogan Service Orientation Index were found to have higher performance, better job satisfaction, and increased intent to remain an IDC.

The pipeline incorporated IDC recommendations for extending the length of corpsman basic "A" school and hospital ward indoctrination. The best preparation for IDC duty was considered to include a hospital inpatient tour, a clinic-based technical tour, a clinic-based patient care tour, and a shipboard administrative tour (perhaps assisting an IDC). Subsequent to IDC certification, creation of a continuing education program and a personnel qualification standard to maintain and enhance medical skills and knowledge was recommended. In addition, respondents preferred post-IDC shipboard assignments that placed them in patient care roles near fleet units.

Surface IDCs recommended shortening shipboard tours to two years; submarine corpsmen preferred three-year tours. In order to accommodate shorter surface IDC tours, the authors recommended that shipboard tours be more frequent, perhaps on a port and starboard (sea/shore) basis.

THE SHIPBOARD INDEPENDENT DUTY HOSPITAL CORPSMAN II:

THE OPTIMAL CAREER PIPELINE

Within the U.S. Navy, a variety of nonmanagerial positions that require years of training, diverse experience, and demonstrated competence are filled by enlisted personnel. The position of shipboard independent duty hospital corpsman (IDC) is perhaps exemplary among such critical positions. The shipboard IDC is typically the sole provider of health services for approximately two-thirds of Navy ships when at sea. In this role, he often works without direct supervision by a physician, and he is responsible for the treatment of illness and injury for as many as 300 or more crew members. IDCs also administer the ship's occupational health and preventive medicine programs, maintain the crew's health records, and submit reports of medical incidents to higher authority.

In recent years, the role of the Navy shipboard IDC has expanded dramatically to meet the demands of increased surveillance and reporting requirements for occupational health and preventive medicine. Given the levels of job complexity, responsibility, and autonomy associated with the job of shipboard IDC, it is important that attention be paid sufficiently early to corpsman career development in order to ensure the acquisition of adequate skills and knowledge through on-the-job experience and training. The purpose of the present paper was to develop an empirically-based IDC career development program that will offer guidelines for the acquisition of skills and experience relevant to preparation for duties as a shipboard independent duty corpsman.

From an organizational perspective, career development is one of the primary means by which maximum organizational effectiveness can be assured. It does this chiefly by helping reduce dependence on uncertain outside labor market forces (Dowd & Sonnenfeld, 1984). Independence from labor market forces is important because the requirement to look outside the organization to achieve a match between job requirements and personnel qualifications is expensive, disrupts productivity schedules, and complicates long-range planning.

Career development has normally been reserved for managerial level personnel (Sonnenfeld, 1984). The most frequently offered explanation for not investing organizational resources in the career development of nonmanagerial job incumbents has been that organizations have a larger human resources investment in their managers, and/or that ensuring managerial accession is critical to organizational effectiveness (Shullman & Carder, 1983). However, neither justification for

restricting career development to managerial level personnel is necessarily valid.

With respect to human resource investments, a lack of organization level career development can result in nonmanagerial personnel having to leave the organization in order to meet personal career goals (e.g., Price, 1977; Price & Mueller, 1981; Youngblood, Mobley, & Meglino, 1983). Because nonmanagerial incumbents typically outnumber managers by a sizable ratio, the associated turnover costs among nonmanagerial personnel can potentially exceed those for managers. Likewise, with respect to managerial accession, career development ensures that managers are equipped with the right combination of technical knowledge, breadth of experience, and record of competence required for top jobs. However, organizational effectiveness can also be adversely affected by the departure of nonmanagerial personnel such as key technicians and front line supervisors -- in some cases with greater impact on the organization than the loss of some managers.

Within the Navy community, the Navy manpower management system provides the support elements necessary for career development such as training, periodic job changes to broaden experience, and regular performance assessments to identify those ready for promotion. However, because the Navy enlisted community is so large and technically diverse, management of effective career development at the organization level has been difficult.

As a consequence of limited management of enlisted careers in the Navy, responsibility for enlisted career development has defaulted, in most cases, to the individual. Unfortunately, the strategic interests of the organization are not likely to be the primary concern in individually-based career decisions. Therefore, in the absence of adequate organizationally-based career development strategies, shortages of certain technical specialties will be inevitable, job failures caused by sub-optimal person-job matches may increase in frequency, and personnel crisis management can become a fact of organizational life. Although select enlisted personnel are trained to serve as part-time career counselors to assist individuals in making career decisions, the need for a rational enlisted career development program at the organizational level is indicated. An organization level enlisted career development program would facilitate the manpower management and planning necessary to maintain an ample supply of fully qualified independent duty corpsmen.

An effective way to create an organization level system for managing enlisted career development is to design career pipelines that extend to all top (terminal) enlisted positions. The construction of such a system of pipelines requires

addressing several issues, such as:

1. The recruitment and selection of appropriate personnel into the technical area.
2. The development of adequate qualifications and experience through selected billet progressions.
3. The provision of relevant and timely training.
4. The retention of a qualified work force.

Each of these issues represents an important component of an organization level career development program and should be addressed through a systematic analysis of factors associated with effective job performance. Because IDCs are drawn from among mid-career enlisted health care specialists, the opportunity to work in the area of direct patient care with limited medical supervision is believed to be a central factor in the vocational attraction of Navy hospital corpsmen to IDC duties. Therefore, it is hypothesized that patient-care-related activities would be reported as most personally rewarding, even if not always viewed as most important for job success in the eyes of reporting seniors.

Subsequent to vocational attraction, training and experience become important issues in a career development program. In general, corpsmen can apply to become IDCs regardless of their job background. IDC applicant background can range from general ward corpsman to that of medical equipment repair specialist. Although the Navy has a need for technical specialists among its corpsmen, it is hypothesized that recognition of the broad scope of IDC responsibilities would lead experienced IDCs to recommend a career development plan that would provide exposure to a broad range of experience rather than an in-depth specialization within a given area.

Upon completion of Advanced Hospital Corps School, it is important that IDCs achieve and sustain optimal performance. Accomplishment of such an objective has often been attributed to the repeated exercise of job-relevant skills and knowledge (Fleishman, 1972; Parker & Fleishman, 1961). Furthermore, performance enhancement is to be expected when employees have the opportunity to learn new job-related skills and knowledge, and can apply extant skills and knowledge in new work situations (Dunnette, 1976). Among health care providers in particular, continuing medical education has become an almost institutionalized aspect of ongoing career development (Boissoneau, 1980).

It would seem, therefore, that performance would be best sustained both by assigning IDCs to jobs that enable them to continue to utilize their specialized skills and knowledge, and by providing ongoing training opportunities. Therefore, it was hypothesized that fleet-oriented patient care settings would be the most

preferred shore rotation assignments for IDCs, and that continuing education would be highly valued by most IDCs.

In addition to programs for performance enhancement, it has long been hypothesized that the better the person-job fit, the better the job performance (Guion, 1976). During interviews with high-ranking Medical Department officers and senior IDCs, respondents regularly volunteered that both job experience and a unique set of personal traits were necessary to ensure IDC job success. Because of the myriad responsibilities of the job, a successful IDC was characterized as being mature, conscientious about administrative details, and socially well-adjusted. This set of traits is very similar to what Hogan, Hogan, and Busch (1984) referred to as a service oriented personality. Service orientation was emphasized by job experts because IDC job success not only required a good "bedside manner" (helping orientation), but also the ability to coordinate with the ship's officers and chief petty officers regarding medical inspections, routine inoculations, physicals, etc.

It was hypothesized that the higher a corpsman's service-orientation, the better his person-job fit. Good person-job fit should be reflected by better and more rapid adjustment to IDC duties among inexperienced IDC job incumbents. Job adjustment should be evidenced by a significant increase in the prediction of job performance by service orientation, over and above prediction by job experience factors alone. Furthermore, IDCs with high service-orientation should report that IDC duties are more rewarding and satisfying.

STUDY DESIGN & METHODS

Sample

Data addressing the questions of interest to this study were taken primarily from a fleet-wide survey conducted in 1985 of all shipboard IDCs. The participation rate for the fleet study was 87% (N=355). Participation was entirely voluntary and was limited to incumbents who had been aboard ship for more than 30 days. Respondents completed a variety of instruments mailed out in two waves over a five-month period.

Instruments

Background Inventory (BI). The BI was constructed to obtain information on the demographic characteristics of respondents, their training and job experience, and the current status of their ship. In addition respondents were asked to: (a) describe the optimal background and experience for becoming an IDC (16 items), (b)

prioritize factors that led to their vocational decision to choose IDC duty (24-items), (c) indicate their level of job satisfaction (20 items), (d) rate the usefulness of 17 generic IDC shore assignments for maintaining job-related skills, (e) complete an 87-item personality scale, the Hogan Service Orientation Index (SOI), and (f) provide a task-preference/task-importance rating for 11 major IDC shipboard activities.

Response options consisted of 5-point anchored scales for vocational decision making ("not important" to "extremely important"), task preference/importance ("not at all rewarding/important" to "extremely rewarding/important"), and job satisfaction ("very satisfied" to "very dissatisfied"). A 4-point scale was used for the Service Orientation Index ("true," "somewhat true," "somewhat false," "false"); however, a dichotomous transformation (true/false) was used for scoring. Shore assignments were rated on a 3-point scale ("not useful," "somewhat useful," "very useful").

Vocational decision-making items were derived from a survey of IDC students conducted in 1984 (Hilton, 1986). Vocational decision-making composite scores were derived from a principal components analysis that yielded five interpretable vectors: (a) desire for increased clinical care role, (b) desire for improved promotion opportunities, (c) desire for autonomy, (d) desire for new tasks and challenges, and (e) adverse factors associated with IDC duty. Reliabilities for the five scales ranged between alpha=.63 to .75, with a mean of .72. Job satisfaction had a reliability of alpha=.84.

Job satisfaction items were taken from earlier studies of Navy enlisted personnel (e.g.,Gunderson & Sells, 1975; Hilton, 1986). Shore assignments, derived from a list of all IDC shore billets obtained from the HM assignment desk at the Enlisted Personnel Manpower Analysis Center in New Orleans, were rated from most to least useful. These billets were grouped roughly according to type and context of duty, yielding 17 billet types. Respondents were asked to rate each assignment in its perceived usefulness "for maintaining the professional readiness of a shipboard IDC when between sea tours."

The Service Orientation Index (Hogan, Hogan, and Busch, 1984) was included for exploratory purposes because it had demonstrated an ability to measure traits that were suggested by many IDC job experts during pre-study interviews and meetings as being associated with IDC job success. The SOI was designed to measure an individual's (a) cooperativeness, (b) helping orientation, (c) preference for structure and attention to detail, (d) dependability, (e) social adjustment, and (f) self-control. Service orientation had a reliability of .94.

Organizational Support Questionnaire (OSQ). The OSQ included a variety of scales measuring various aspects of Navy, Fleet, and ship support for IDC tasks, as well as measures of job characteristics. It also included items regarding the IDCs' perceptions of their jobs, notably perceived need for ongoing qualification and recertification programs, intent to re-enlist, and optimal sea tour length. Only individual items from the OSQ will be discussed in this study.

Performance Ratings. IDCs were rated on ten general areas of performance, using a 50-item rating form developed by Navy Personnel Research and Development Center, San Diego (Note 1). Ratings consisted of 7-point anchors ranging from "fails to meet expectations" to "superior." Ratings covered 9 general areas of performance: (a) initiative and responsibility, (b) consideration, (c) support of the command, (d) judgment and maturity, (e) attention to details, (f) job knowledge, (g) communication, (h) use of resources, and (i) support of training. The nine mean performance composite scores intercorrelated above r=.80. Consequently, overall average ratings were used in this study. Reliability for the performance index was alpha=.94.

Analysis

The study was divided into four areas, each addressing one of the four career development issues mentioned previously. Data description and analysis took into consideration the fact that IDCs serve in two Forces, surface and submarine, and in two Fleets, Atlantic and Pacific. Hence, when Fleet or Force differences were encountered, they are reported.

Vocational Attraction. The question of what attracts people to the IDC specialty was addressed by conducting a cluster analysis on the five vocational decision-making composite scores. Group definitions were confirmed and interpreted using discriminant analysis. Background variables and job satisfaction scores were examined for differences associated with group membership. The question of what keeps IDCs on the job (most rewarding tasks) was addressed by aggregating responses to the task preference/importance items, and then ranking the items for each Force and Fleet. Fleet/Force differences in rankings were tested using the Kruskal-Wallace 1-way Chi-squared test (Siegel, 1956).

Pre-IDC Training and Experience. The analysis of data addressing the types of training that adequately prepare one for IDC training and subsequent assignment, consisted of ranking the mean number of months assigned by respondents to four

indoctrination items. These items requested that IDCs indicate the number of months that should be dedicated to each of four post-basic-training phases comprising the first (indoctrination) year of Naval service. Force differences were tested using discriminant analysis of raw response data.

The analysis of data addressing the type of job experience required to adequately prepare one for IDC training and subsequent assignment consisted of ranking the magnitude of aggregate unit weight scores for responses to a 12-item pipeline question. Respondents were asked to check the four most useful operational permanent change of station (PCS) tours of duty that, in their opinion, would best prepare one for IDC duty. Tours were generically set out in a 3-by-4 matrix by type of duty (administrative, clinical, or technical/lab), and context of duty (ship's company, Fleet Marine Force, hospital, or clinic). Requirements for advanced "C" school training would be inferred from any assignment for which such training is a prerequisite.

Information on ideal IDC preparatory pipeline structure was placed in perspective by describing the service and training history and demographic background of the population of IDC respondents. Fleet/Force differences in background were presented using cross-tabulations and mean breakdowns. Difference tests consisted of independent Chi-squares and F-tests.

Sustained Performance. The question of what kinds of training and experience sustain optimal IDC performance was addressed by describing responses to questions from the organizational support questionnaire. These questions included optimal sea tour length, the desirability of continuing medical education, establishment of ongoing personnel qualification standards (PQS) for IDCs, and optimal shore assignments to enable IDCs to exercise clinical skills and knowledge when between shipboard assignments.

Personal Traits. Finally, the question of whether a health service-oriented personality might increase the degree of IDC person-job fit was tested in several ways. First, job experience factors generally described by IDCs as important preparation for IDC duty were regressed in a hierarchical fashion on job performance ahead of personality. Service Orientation Index scores were entered in a second step in order to test for a significant increase in prediction of job performance. Additional analysis included examination of the relationship of SOI scores to other job-relevant outcomes including perceived job stress, reward levels associated with major IDC tasks, job satisfaction, and re-enlistment intentions.

DESCRIPTION OF SURVEY RESULTS

Vocational Attraction

It was hypothesized that IDCs would report that their decision to apply for IDC duty was due mainly to a perceived opportunity for increased involvement in patient care duties and a desire to function autonomously. In addition, patient care-related duties were expected to be reported as most personally rewarding, regardless of their importance for IDC job success. The data presented here generally supported these hypotheses.

Vocational Decision-Making

In order to determine the number of central factors that influenced the choice to apply for IDC status, vocational decision-making scale scores were subjected to nearest-neighbor cluster analysis. Cluster analysis yielded a two-group solution. The cluster solution was tested using discriminant analysis, which indicated that the 2-group solution accounted for 70% of between-group differences in vocational priorities ($p<.0001$). Results are presented in Table 1. The magnitude of the discriminant weights suggested that the factor which most distinguished between the two IDC groups was the desire for an increase in patient care responsibilities. One group was considerably higher than the other on this factor (48% of respondents) and, therefore, could be characterized as having a high clinical orientation. The second group was not quite as straightforwardly interpretable.

Table 1

Multivariate Discriminant Analysis on the Two-Group Cluster Solution Using Vocational Decision-Making Composite Scores.

Vocational Score:	Clinical Orientation (N=170)	Wt.	Promotion Orientation (N=185)	1-Way F(Sig.)
Desire for Increased Patient Care Role	4.54	.59	3.37	280.8(.001)
Desire for Increased Autonomy	4.10	.32	4.76	81.7(.001)
Desire for Promotion Opportunities	2.84	.17	3.38	24.3(.001)
Hardship Factors of IDC Duties	1.99	.27	1.38	49.7(.001)
Desire for Change of Duties	1.50	.25	2.12	49.7(.001)

Eigenvalue = 2.32, Canonical R^2=.70, $X^2(5)$=409.9, p<.0001

The second group (52% of respondents) seemed to be most characterized by a promotion orientation. The factors with the highest mean scores for the second group are a high desire for autonomy and promotion, with less importance attached to patient care activities. Notably, both the discriminant weights and the absolute mean values suggest that desire for a change and IDC hardships (e.g., frequent moves, sea duty, etc.) had only negligible impact on decision-making despite univariate significant differences. Promotion opportunities, on the other hand, had a lower weight than patient care or autonomy, because its prediction of group membership overlapped with those other two factors.

A number of variables were examined relative to vocational group differences. These variables included: (a) performance ratings, (b) demographics (e.g., age, race, education) (c) types of job experience (e.g., clinic, hospital, sea), (d) job satisfaction and, (e) re-enlistment intentions. Only one variable seemed to be significantly related to these group differences. As Figure 1 shows, submarine IDCs were more likely to emphasize promotion opportunities than clinical care ($X^2(2)=7.36$, $p<.005$), whereas surface IDCs were about evenly split between the two vocational groups.

	Force	
Vocational Group	Submarine IDC	Surface IDC
Clinical-Oriented Corpsmen	36%	53%
Promotion-Oriented Corpsmen	64%	47%

Figure 1. Cross-tabulation of vocational decision group broken down by Force.

Rewarding IDC Job Attributes

The most rewarding aspects of shipboard IDC duty were measured by having corpsmen rate 11 global activities on a 5-point scale. These scores were then aggregated and ranked according to the sum scores. Table 2 presents the ranked level of personal reward associated with each activity broken down by operating Force and Fleet.

Table 2
Rank Ordering of the Amount of Personal Reward Associated With Shipboard IDC Activities Broken Down by Force and Fleet

	Surface		Submarine	
	PAC	LANT	PAC	LANT
Training the crew in first aid and other medical matters.	1	1	4	1
Providing direct patient care.	2	2	2	3
Providing supportive counseling to crew members.	3	4	3	5
Advising the CO/XO on medical matters.	4	3	5	4
Being qualified in surface/submarine warfare.	5	5	1	2
**********				
Administering the preventive medicine program.	6	6	9	11
Coordinating activities with other departments.	7	7	6	6
Administering the occupational health program.	8	8	11	8
Administering the radiation health program.	11	11	7	7
Completing general administrative paperwork.	9	10	10	10
Performing collateral duties.	10	9	8	9

The top five most rewarding activities are unambiguously identified. These all seem to be clinical-operational tasks. The six activities found least rewarding, likewise reflect a common thread. They are administrative-clerical in nature. Inspection of the within-Force rank differences for Fleet presented in Table 2 shows no significant difference between the rankings of Atlantic and Pacific Fleet IDCs (Kruskal-Wallace $X^2(1)=0.91; p>.05$). With respect to submarine Force IDCs, however, there was a significant difference (K-W $X^2(1)=9.52; p<.002$). These differences showed that SUBPAC IDCs placed less reward emphasis on training the crew and occupational health administration than either the SUBLANT or SURFPAC/LANT IDCs. This difference may be related to the importance placed by SUBPAC unit commanders on the crew becoming warfare qualified.

Table 3 presents rankings of the same job activities as Table 2, but with respect to importance for job success, rather than personal reward. It is somewhat noteworthy that compared to reward emphasis rankings, many of the administrative-

clerical tasks increased in importance for job success across Forces, especially the radiation health program and completion of administrative paperwork. Also, between-Force differences appeared to exist. Subs showed little emphasis on medical training compared to surface ships, whereas IDC warfare qualification moved to the bottom of the list for surface ships.

Table 3

Rank Ordering of the Amount of Importance for Job Success Associated With Shipboard IDC Activities Broken Down by Force and Fleet.

	Surface		Submarine	
	PAC	LANT	PAC	LANT
Training the crew in first aid and other medical matters.	2	1	7	4
Providing direct patient care.	3	6	8	6
Providing supportive counseling to crew members.	7	8	6	10
Advising the CO/XO on medical matters.	1	2	3	2
Being qualified in surface/submarine warfare.	11	10	5	5
**********				
Administering the preventive medicine program.	5	3	10	9
Coordinating activities with other departments.	8	7	4	7
Administering the occupational health program.	6	4	9	8
Administering the radiation health program.	9	9	1	1
Completing general administrative paperwork.	4	5	2	3
Performing collateral duties.	10	11	11	11

Looking at the data of Table 3 from a within-Force perspective, no significant between-Fleet differences were detected between the importance rankings of surface IDCs (K-W $X^2(1)=2.59; p>.05$). Significant Fleet-related differences were found, however, between submarine IDC importance rankings (K-W $X^2(1)=15.52; p<.001$). SUBPAC IDCs reported much less importance associated with training the crew compared to SUBLANT. This may explain the personal reward ranking given this variable by SUBPAC IDCs. Two other differences also appeared: (1) importance attached to coordinating

activities with other departments, and (2) providing counseling to the crew. SUBPAC IDCs reported higher importance being attached to both coordinating and counseling than did SUBLANT.

Pre-IDC Training and Experience

It was hypothesized that because of the diverse responsibilities of IDC duty, respondents would favor a career development plan that emphasized diversity in regard to both job context and types of duty. Inspection of the pre-IDC indoctrination and PCS tour pipelines confirmed the diversity hypothesis.

Model Pre-IDC Corpsman Indoctrination Pipeline

Figure 2 presents a recommended breakdown of the first "corpsman indoctrination" year to provide the best preparation for IDC duties. Respondents were told to allow 3 months for basic training and transfers, and to provide the optimal number of months for the remaining categories. There were no significant between-Force differences in the months allotted by submarine and surface IDCs (Wilks' Lambda = .99;$X^2(3)=3.16;p>.05$).

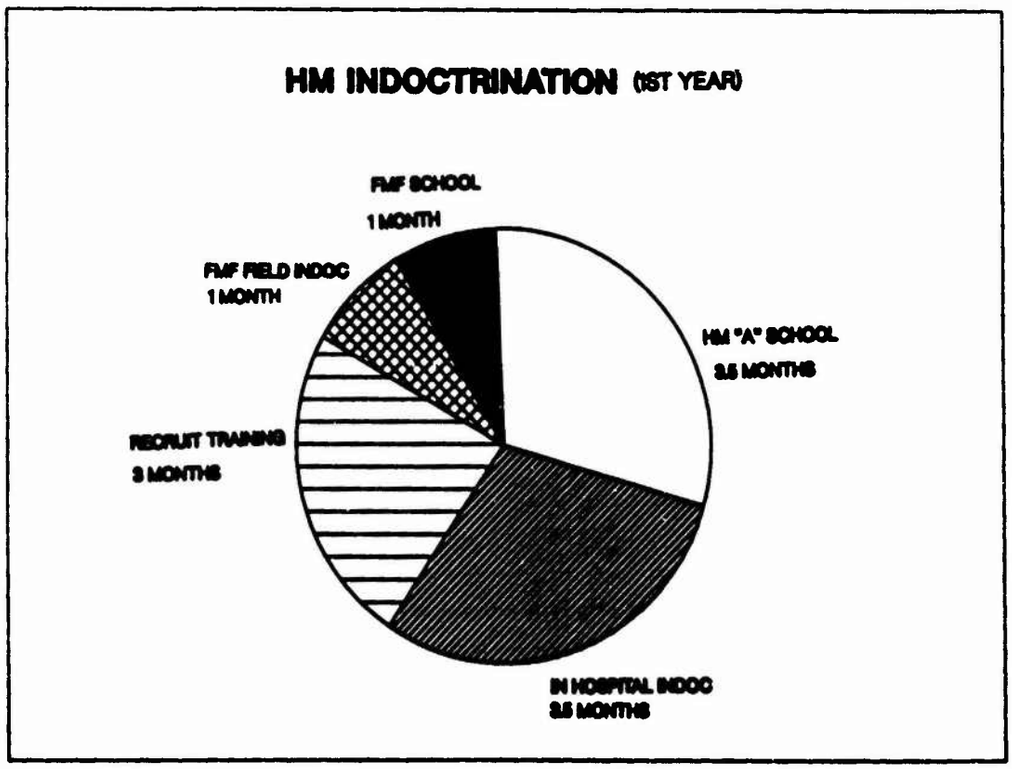

Figure 2. Breakdown of recommended Pre-IDC corpsman indoctrination.

As Figure 2 shows, IDCs place the greatest emphasis on corpsman "A" school and hospital indoctrination, allotting less than 20% of the year to Fleet Marine Force (FMF) indoctrination. In fact, nearly 60% assigned no time at all to FMF indoctrination. Because the 40% that did assign time to FMF indoctrination assigned 3 or more months, the breakdown reflected a mean of 2-months with the FMF (Figure 2). Finally, the assignment of importance to FMF indoctrination was not a function of career chauvinism. Those assigning time to FMF indoctrination were split about evenly among those possessing an FMF specialty code (NEC), and those who did not.

Pre-IDC Operational Tours

Respondents were asked to check the four permanent change of station (PCS) tours that would best prepare an individual for IDC duties. They were given twelve options presented in a 3-X-4 matrix -- 3 types of tasks (clinical, technical, and administrative) and 4 types of work contexts (ship, hospital, clinic, and FMF). Figure 3 presents the top four PCS choices, ranked by frequency of selection.

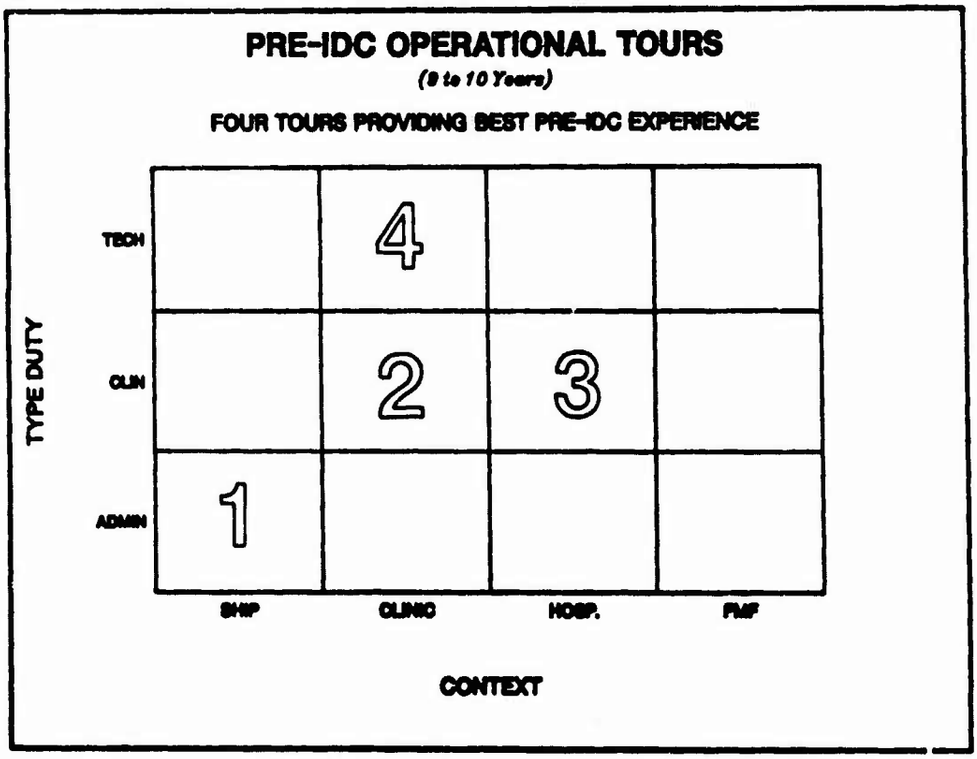

Figure 3. Top four PCS tours providing the best Pre-IDC job experience ranked by frequency of selection.

As was the case for indoctrination, no between-Force differences were found for PCS tour selection (Wilks' Lambda = .94; $X^2(12)=20.01;p>.05$). An admin tour aboard ship was the assignment considered most important. This may refer to an HN/HM3

shipboard "striker" tour assisting an IDC. Next in importance was a clinical rotation in a clinic, followed by a clinical rotation in a hospital. Clinic duties often involve a higher percentage of treatment activities with active duty personnel, which might be viewed as similar in nature to shipboard treatment activities. Also, because IDCs must make referrals to hospitals directly from the ship, knowledge of hospital organizations was likely viewed as useful. Lastly, a technical tour in a clinic setting was considered important perhaps because IDCs must do their own lab work-ups when at sea. There are several routine lab tests to perform on the ship's potable water supply and sanitation systems, and bacteriological tests may be required on occasion in order to trace the source of infectious diseases.

Population Background and Experience

In order to more effectively understand and interpret the model IDC pipeline (background and experience) recommended by IDCs themselves, it seemed to be a useful step to examine the background and experience of current shipboard IDCs. Consequently, the demographic background, training certification (NEC), and assignment experience will be summarized.

Demographic Background. Table 4 presents a demographic summary of the IDCs in the present study, broken down by submarine and surface Forces. As can be seen, the only variable on which surface and submarine IDCs differed was percentage with warfare qualifications. This was very likely due to warfare qualifications being a requirement for submarine IDCs. On the basis of Table 4 information, a profile based on data averages was constructed to provide a general descriptive profile of the typical shipboard IDC.

The typical IDC corpsman is a white, 34-year-old, male, chief petty officer. He is married with two children. He possesses a high school diploma and has accumulated some college credits. The typical IDC has nearly 15 years in the Navy. He graduated HM "A" School in 1971 with either an NEC of 0000 (general ward) or 8404 (Fleet Marine Force; FMF). He entered IDC School during his tenth year of service. He graduated IDC School in 1980. During his career, the typical IDC spent about 10% of his time serving with the FMF, 55% at a clinic or hospital, 25% at sea, and 10% in training. He is currently 18 months into his second sea tour -- his first as a shipboard IDC.

Pre-IDC Technical Qualifications. At the time of applying for IDC duty, 64% of respondents held one of the two direct clinical patient care NECs: FMF (33%: 8404) or General Ward (31%: 0000). The remaining 36% held an NEC from one of 38 technical specialties. This latter result means that over one third of IDCs did not serve primarily in a direct clinical care specialty (NEC 8404 or 0000).

Table 4

A Demographic Description of IDC Survey Participants Broken Down by Force.

	Surface	Submarine		Surface	Submarine
Average Age:	34	33.5	**Education:**		
			HS/GED	42%	35%
Race:			AA Degree	37%	43%
White	80%	88%	BA/BS	18%	20%
Black	8%	4%	MA/MS	3%	2%
Asian	7%	2%			
Other	5%	6%	**Pay Grade:**		
			E-6	40%	37%
Marital:			E-7	55%	54%
Married	84%	80%	E-8	5%	9%
Single	10%	16%			
Separated	6%	4%	**Years Since IDC School:**		
			One	12%	24%
Children:			Two	15%	10%
None	16%	26%	3-4	18%	23%
One	18%	17%	5-6	20%	14%
Two	40%	37%	7-8	19%	12%
Three	19%	12%	9+	16%	17%
Four+	7%	8%			
			Warfare Qualification:		
				24%	80%

Operational Tours. Because of the life sustaining aspect of the IDC job, direct patient care experience would seem to be essential. This experience is obtainable when serving aboard ships, with the FMF, or in hospitals and clinics. Only about 25% of IDCs reported noteworthy patient care experience with the FMF (i.e., 50% or more patient care involvement). Half of all IDC respondents reported 12 or fewer months service with the FMF (41% reported no service at all). Furthermore, among those with over 12 months FMF experience, half the jobs involved primarily administrative duties (i.e., 25% or less patient involvement).

Technical Qualifications. A breakdown of the IDC respondents revealed that 70% were surface ship IDCs (NEC 8425) and 30% were submarine IDCs (NEC 8402). Among IDCs, the two most common secondary NECs were FMF (50% 8404) and General Ward (21% 0000). The remaining secondary codes were distributed across 23 technical specialties.

Within hospitals and clinics, 21% of IDCs reported having primarily administrative experience (i.e., 25% or less patient involvement). Only 54% of IDCs reported that at least half their nospital or clinic duties involved notable patient care activities. Taken in conjunction with pre-IDC specialization (NEC), it appears that between 25% and 35% of IDCs had little or no direct patient care experience prior to enrolling for IDC training.

Background and Performance. One thing that is not addressed by the data of Figure 3 is the importance of the above tours for actual IDC performance. If, for example, a shipboard tour is recommended as advantageous, does experience in this area actually result in superior IDC performance? The number of months served in hospitals and clinics, the FMF, and as ship's company was reported by each respondent, as well as the percent of direct clinical care associated with the tours in each job context. It was possible, therefore, to partly test the relationship between performance and job experience by limiting analysis to only first-tour IDC respondents (65% of the entire sample).

The number of months of clinical and administrative duty in each of three types of settings (hospitals and clinics, the FMF, and shipboard duty) was entered in stepwise fashion into a regression equation predicting performance. However, the six experience variables did not significantly predict performance. To boost analytic power, only IDCs with experience backgrounds consistent with the recommended experience mix were singled out for analysis. Unfortunately, only 16 respondents reported a background consistent with the recommended model. This was too few to test.

Sustained Performance

Many career development models end with the job preparatory phase which ensures that incumbents possess adequate training and experience to qualify for new positions. However, both the issues of adjustment to the new job and sustained performance throughout an individual's career are critical aspects of career development. For this reason this study examined both shipboard and shore-based assignments. It was hypothesized that fleet-oriented patient care settings would be the most preferred shore rotation assignments for IDCs in both Forces, and that continuing education would be preferred by most IDCs for developing their skills and knowledge. This was generally supported.

Prospective IDC Shipboard Orientation

Currently, orientation for IDCs consists of their turnover period once they report aboard ship. This period is normally one to two weeks. However, a percentage of IDCs have no turnover period because the person they are to relieve has already been detached. In addition, a one to two week period prior to reporting aboard ship is theoretically set aside during IDC training for working alongside a shipboard IDC in the Fleet to see what IDCs do and what their working conditions may be. This

policy is critical, because many IDCs reported having no significant shipboard experience. The question was asked in the OSQ if corpsmen favored implementation of a formal IDC orientation program subsequent to graduation from IDC school. Eighty-three percent favored such a program.

Another method for improving orientation of IDCs to shipboard life would be to require IDCs to join the rest of the crew in the formal program for obtaining warfare qualifications. Overall, 74% of IDCs did not favor a warfare qualification requirement. Surface ships were significantly more opposed to a requirement for warfare qualification than were submarines ($F(1)=139.84; p<.0001$). However, because submarines require warfare qualification of all crewmen, it was not surprising that 76% of submarine IDCs favored the program. In addition, SURFLANT IDCs were significantly more in favor of a requirement for warfare qualification than were SURFPAC IDCs ($F(1)=8.57; p<.003$).

Optimal IDC Shipboard Tour Duration

In the OSQ, respondents were asked to recommend an optimal IDC shipboard tour length. Results differed significantly between surface and submarine IDCs ($F(1,355)=20.84; p<.0001$). Table 5 presents a breakdown of responses by Force. Surface IDCs most frequently chose 2 years (53%), with an overall mean of 2.3 years. Submarine IDCs, on the other hand, most frequently chose 3 years (53%), with a mean of 2.8 years. The average value for the "other" category was 2 years for surface, 3 years for subs.

Table 5

Optimal IDC Shipboard Tour Duration Broken Down by Force

		Breakdown		
Force:	Average	2 Years	3 Years	Other
Surface	2.3 Yrs	53%	38%	9%
Submarine	2.8 Yrs	29%	53%	18%

A second aspect relating to sustained performance aboard ship might be the effects of duty aboard differing types of ships in the fleet. For this reason, performance, job satisfaction, and re-enlistment intentions were examined relative to ship type (class) using analysis of variance. No significant differences related to ship type were found for any of the three variables.

Optimal IDC Shore Rotation

Table 6 presents a breakdown of the most and least desirable billet types by surface/submarine Force. Four choices within each Force were distinguished by receiving high desirability ratings. Although somewhat different between the two groups, both sets of assignments place the IDC closest to the Fleet or in medical training. A "Fleet" hospital/clinic was distinguished from one serving primarily a Naval Air Station or Marine Base. Both Forces were in total agreement that Ship Intermediate Maintenance Activities and Naval Reserve Centers were less desirable for maintaining IDC skills and knowledge.

Table 6

Post-Shipboard IDC Shore Rotation Preferences Broken Down by Force

Most Desired	
Surface	Submarine
1. Fleet Clinic	1. SQDN/Group Medical
2. Preventive Med. Unit (PMU)	2. Fleet Clinic
3. Instructor (NSHS/HSETC)	3. Instructor
4. Fleet Hospital	4. Fleet Hospital

Least Desired	
Surface	Submarine
1. Ship Maint. Unit (SIMA)	1. Ship Maint. Unit
2. Reserve Center (NRC)	2. Reserve Center

On-going Certification

Periodic Requalification

The Navy generally requalifies its personnel through the Personnel Qualification Standards (PQS) program. At the time of this survey, no PQS program for IDCs was in effect. Corpsmen were asked in the OSQ to indicate the value of having a PQS program for shipboard IDCs. Implementation of such a program was favored by 62% of respondents.

Continuing Education

Several questions addressing the issue of medical education were included in the Organizational Support Questionnaire. When asked whether a formal program of continuing education for IDCs should be made available, 99% agreed that it should; 60% of these agreed strongly. When IDCs were asked whether IDCs should be able to participate in a continuing education correspondence course, 95% agreed that they should.

Clinical Shore Assignments

Finally, the best method for insuring the maintenance of skills and knowledge of any type is to be assigned tasks that require those skills and knowledge. The data of Table 6 clearly reflect that IDCs prefer shore assignments where they can be involved closely with exercise of clinical skills and knowledge.

Personal Traits

It was hypothesized that because of the myriad responsibilities of the job, an IDC with the best person-job fit would be helping-oriented, mature, conscientious about administrative details, and socially well-adjusted. This set of traits, as measured by the Hogan Service Orientation Index (SOI), was found to predict several indicators of good person-job fit.

Service Orientation and Performance

One aspect of person-job fit can include compatibility between job demands and personal traits. The Hogan Service Orientation Index was designed to measure the very traits mentioned in pre-survey interviews by job experts. According to the Index's developer, scores reflect (a) cooperativeness, (b) helping orientation, (c) preference for structure and attention to detail, (d) dependability, (e) social adjustment, and (f) self-control. Because job experience was not a significant predictor of performance, hierarchical regression was not necessary. Overall performance scores were significantly predicted by SOI scores ($R=.18$, $p<.001$ for the entire sample; $R=.31$, $p<.001$ for the 244 first-tour IDCs). First tour IDCs were examined separately because trait-job compatibility was believed to show the largest effect on the performance of new, less-experienced incumbents. These results support the contention that personality characteristics are an important factor in IDC job performance.

Service Orientation and Retention

Good person-job fit has also been linked by many theorists to increased retention in the organization. That is, when people find their jobs rewarding, low in stress, and satisfying, they generally want to remain in that job (e.g., Hackman & Lawler, 1971; Porter & Steers, 1973). Retention has been shown to be a function of both job characteristics and job satisfaction.

Job Characteristics. Correlations between service orientation, as measured by the Service Orientation Index, and the rated level of personal reward associated with the 11 major task activities of a shipboard IDC discussed earlier are presented in

Table 7. Because, as in the case with performance, person-job fit may improve with job experience, this analysis was limited to first-tour IDCs (N=226). As can be seen, service orientation correlated significantly with every task. IDCs with high service orientation appeared to evidence a higher degree of person-job fit in that they rated all the major aspects of their jobs as more rewarding than those with low SOI scores.

Table 7

Correlations Between Reward Associated with Various Job Characteristics and Service Orientation Score

TASK	Correlation	Sig.
Training the crew in first aid and other medical matters.	.22	p<.001
Providing direct patient care.	.25	p<.001
Providing supportive counseling to crew members.	.24	p<.001
Advising the CO/XO on medical matters.	.31	p<.001
Being qualified in surface/submarine warfare.	.28	p<.001
Administering the preventive medicine program.	.19	p<.001
Coordinating activities with other departments.	.24	p<.001
Administering the occupational health program.	.15	p<.01
Administering the radiation health program.	.11	p<.04
Completing general administrative paperwork.	.15	p<.01
Performing collateral duties.	.31	p<.001

Another salient job characteristic is the amount of stress experienced on the job. The job of IDC was characterized in pre-study incerviews as very stressful, potentially leading to burnout. It would follow that if high service orientation led to improved person-job fit then it should correlate negatively with perceived job stress. A significant, and negative, correlation of r=-.39 (p<.0001) was found between the perceived job stress score and the SOI score among first-tour IDCs.

Job Satisfaction. It was further hypothesized that if a service-oriented personality contributes to improved person-job fit, it should also be reflected in a significant correlation with job satisfaction and intent to re-enlist in the Navy. This was found to be the case. SOI scores for the full sample correlated r=.43 (p<.0001) with overall job satisfaction and r=.24 (p<.0001) with re-enlistment intention. It would seem, therefore, that personality is an important factor in the job success of a shipboard IDC.

DISCUSSION

The implications for the above results would seem to be most related to four areas of IDC career development: (a) recruitment, (b) applicant screening, (c) pre-IDC career pipeline development, and (d) IDC operational assignment pipeline development. The discussion will address each of these areas in the context of creating a career development pipeline based on the results of this study.

Recruitment

Recruitment is a general term for the process of attracting job candidates. In order to establish recruitment strategies, it is useful to know what attracted job incumbents to their type of work. The IDC data suggest that there were three primary reasons: (a) to become involved in hands-on patient care activities, (b) to function autonomously, and (c) to enhance opportunities for promotion. This suggests that, **when trying to attract new IDC applicants into either Force, recruiting activities should emphasize opportunities for increased involvement in delivering direct patient care.** Furthermore, because a significantly larger percentage of submarine IDCs emphasized upward mobility as a vocational decision factor, when recruiting submarine IDCs, **increased attention should be focused on promotion opportunities.**

IDC Applicant Screening and Selection

Once recruitment has attracted a pool of candidates, it is necessary to ensure that the most qualified candidates are chosen. This is the process known as screening and selection. Screening is that phase of the process by which applicant qualifications are determined. Selection is the application of decision-making criterion for assigning applicants to jobs or job training.

IDC Applicant Screening

Screening typically involves aptitude testing (intelligence, motor coordination, traits, etc) and background information gathering (job experience, vocational interests, prior training, etc). Although IDC applicants are already employees of

the Navy, the screening process is very similar to that for job applicants in any setting.

Aptitude. Prior to initial enlistment, the Navy measures aptitudes and other relevant knowledge qualifications using the Armed Forces Vocational Aptitude Battery (ASVAB) or its forerunner, the General Classification Test/Arithmatic Reasoning Index (GCT/ARI). A previous study of IDC corpsmen (Hilton and Hilton, 1985) reported that aptitude was not significantly related to job failure.

Training. The training background reported by IDCs in the fleet survey was not related to performance. All IDC's indicated completion of basic corpsman "A" school, and two thirds completed additional technical specialty training in support of the FMF or a laboratory specialty (class "C" school). Performance as an IDC was not related to whether or not a corpsman had completed specialty training before making application for IDC school.

Fleet IDCs did provide a rather unambiguous preference for a basic indoctrination training phase which included a somewhat longer period for both "A" school and hospital orientation compared to current norms. Previous experience with the FMF, however, was not viewed as a particularly high priority for shipboard IDCs. This may have been because only 50% of IDC respondents had even undergone FMF certification. However, this finding more likely reflects the relatively small correspondence between the duties of IDCs aboard ship and in the FMF.

One option to including FMF training as part of the entry-level orientation of most incoming corpsmen might be to develop an independent career pipeline for the FMF community. Another option might be to introduce FMF orientation for IDCs following their first sea tour in order to familiarize them with their responsibilities should they have to serve with the FMF in time of armed conflict.

Experience. IDCs recommended four operational tours that they believe would best prepare a corpsman for shipboard duty: (a) a medical administrative tour aboard ship, a patient care tour in (b) a clinic and (c) a hospital, and (d) a technical tour in a clinic setting. It was notable that only 16 of the 255 first-tour subjects analyzed had assignment histories compatible with the model developed on the basis of IDC recommendations. This finding suggests that IDC career development needs to become more systematic to ensure adequate exposure to the variety of job experiences that knowledgeable incumbents considered to be important background for IDC duties.

Traits. A previous study (Hilton & Hilton, 1985) examined background factors related to IDC job failure based on a service record review. That report suggested three factors related to job failure: pre-application performance history, IDC

School class standing, and personal characteristics that reflect maturity and good judgment. These findings supported the importance of pre-application personal characteristics in establishing potential for success.

The present study also found a significant relationship between an indicator of judgment and maturity, the SOI, and indicators of good IDC person-job fit (i.e., performance, job satisfaction, task rewards, and re-enlistment intention). This confirms that personal traits play an important role in IDC job success. However, because the SOI was more valid for predicting first-tour IDC performance than it was for second-tour IDCs, additional research is required before it or a similar device can be recommended as a screening tool.

IDC Applicant Selection

Selection typically involves determining cut-scores for various applicant attributes, and establishing the number and type of background factors (job experience, vocational interests, training, etc) necessary to result in a selection decision. This section provides some guidelines that may be useful in IDC applicant selection.

Aptitude. Although the data reported here do not specifically address aptitude, the current minimum IDC applicant requirement for ASVAB aptitude scores (WK + AR=115 and WK + MK + GS=144) has been shown to be a reasonable standard in previous research (Hilton & Hilton, 1985). However, because poor classroom performance has been associated with IDC job failure (Hilton & Hilton, 1985), and because IDC duties require continual self-directed learning, **the current policy of permitting aptitude score waivers for the Navy minimum ASVAB standard should be reconsidered.**

Training. Based on the importance attached to a technical shore tour in preparing for IDC duties, it is recommended that applicants who possess a primary or secondary technical NEC ("C" school training), especially in a laboratory specialty, be given preference in IDC applicant selection.

Experience. Based on IDC recommendations, the more ideal applicants are those having a broad experience base; however, time in a job should be sufficient to have developed mastery of relevant skills and knowledge. Significant experience (24 or more months each) in three of the following four billets would seem advisable: (a) a technical tour in a fleet clinic, (b) a medical administrative tour as ship's company, (c) a patient care tour in a clinic/dispensary, and (d) a patient care tour in a hospital setting. Because the data indicate that few IDCs possess such a background at present, screening based on experience should be viewed as a career

development goal to be realized several years following establishment of a formal pre-IDC pipeline.

Traits. Screening based in part on personal traits can be accomplished using existing procedures to require that commanding officers stipulate in their endorsements that each IDC applicant possesses a high degree of: (a) cooperativeness, (b) helping orientation, (c) attention to administrative detail, (d) dependability, (e) social adjustment, and (f) mature self-control. Furthermore, **because of the extreme responsibility accorded to an IDC, the assessment of IDC traits should be made by either the CO or XO personally; not by an enlisted career counselor or division officer.**

IDC Pipeline Development

Pre-IDC Pipeline Development

To realize the full potential benefits of the above selection criteria, an IDC career pipeline would be required that could be followed by job incumbents from first entry into the Navy until the point of eligibility for IDC duty. Not all recruits who enter the Navy want to become corpsmen, much less independent duty corpsmen. In addition, not all corpsmen are attracted to independent duty with operational forces in the fleet. For those who do aspire to such a high level of responsibility, it is important that the Navy provide guidance to help ensure a pool of applicants who will be best prepared to meet the demands of IDC training and subsequent shipboard duty.

Table 8 presents a pre-IDC career outline developed on the basis of the data reported here and elsewhere (Hilton & Hilton, 1985; Hilton, 1986) regarding pre-IDC career development. The intention here is to provide for experience with both breadth and depth, by ensuring tours of sufficient duration to enable the mastery of necessary skills. Concern for depth stems from a service record review of 96 IDC corpsmen conducted by the first author in 1984 and not previously reported. **The average tour of duty for a corpsman at the time of entering IDC training was 13 months, as opposed to a norm of 36 months prescribed for fleet sailors by NMPC.** Moreover, 88% had an average PCS tour length of 18 or fewer months; 30% had an average of 9 or fewer months.

In addition to the obvious advantage of enabling greater IDC skill mastery, longer tours of duty could facilitate career management by the Navy. If the average PCS tour was lengthened, detailers would be involved in fewer reassignments and would have more time to manage HM careers at the organizational level.

Table 8

A Model Pre-IDC Career Outline

Indoctrination
Year 1
10 weeks Recruit Basic Training 16 weeks Hospital Corpsman "A" School 26 weeks Hospital Inpatient/outpatient Indoctrination
[Promotion to HN]
Pre-IDC Operational Tours
Years 2-12*
Inpatient Health Service (Ward) Tour Corpsman Shipboard "Striker" Tour Clinic Outpatient Health Service Tour Corpsman Class "C" School & Clinic Laboratory Tour Repeat Tours/ New Context Tours (e.g., FMF)
[Promotion to HM1]

* Note: Duration for each tour should be a minimum of 24 months to insure adequate understanding of the work environment, and to master requisite skills and knowledge. The order of tours may vary.

IDC Operational Assignment Pipeline

When an IDC is accepted through the screening and selection process, he is assigned to a training course that runs between 9 and 12 months. An earlier study (Hilton, 1986) determined that IDC training was generally adequate to meet shipboard IDC job requirements. Once training has been completed, focus must shift to post-IDC certification and career development.

Following training, every IDC should be assigned directly to shipboard duty in order to enable the application of learned skills in a shipboard environment. The priority of a shipboard assignment is important because a time lag between training and the application of that training can result in erosion of learned skills and knowledge (Hinrichs, 1976; Korman, 1971). Furthermore, IDCs should be reassigned to shipboard duty on a port and starboard (one-on/one-off) basis until retirement. This is reasonable, because IDCs volunteered to go to sea, they were trained to do a job at sea, and the requirement for a health care provider at sea is the reason the Navy has IDCs in the first place. Frequent sea tours would also help to keep IDC skills and knowledge current and battle-ready.

To certify the successful application of training to shipboard job requirements, the Navy supports the Personnel Qualifications Standards (PQS) program. PQS enables the certification and recertification of all crew members with respect to their

qualification to carry out assigned operational duties such as emergency damage control, Officer of the Deck, navigation, etc.. The limited shipboard experience among IDC graduates is likely responsible for the high degree of support reported for the implementation of an IDC PQS program. **Therefore, a PQS program for IDCs should be implemented to aid them in the development and retention of learned skills and knowledge through shipboard application.** Not only can a PQS system help with shipboard orientation, but it can serve, as it does for other enlisted ratings in the Fleet, to document certification and recertification.

Consistent with typical Fleet PQS procedures, initial certification would begin during IDC training, but ideally, demonstration of applied skills and knowledge would also be accomplished whenever possible aboard ship, prior to completion of the first shipboard IDC tour. **Recertification should be frequent enough to establish that an IDC has been able to remain current while aboard ship; and when ashore, to re-establish certification prior to returning to shipboard duty as an IDC.**

Table 9 presents a model career development pipeline which summarizes information presented in this report. The model is based primarily on Fleet survey recommendations by IDCs that they believe will help to ensure sustained quality performance. The model serves to demonstrate that an IDC career development pipeline can be constructed on the basis of empirical data. The model might also serve as a point of departure for future Navy career development planning.

Model flow points for years to promotion for E-1 to E-5 were based on service record data from the 1985 Hilton and Hilton study. Flow points for E-6 and above were based on modal pay entry base date (PEBD) minus time-in-grade for each rank among 355 survey respondents. The flow-point ranges for class "C" technical and IDC training were based on two standard deviations above and below the mean years of service reported in the Fleet survey. Other training flow points were based on Navy eligibility requirements. Surface and submarine tour assignments were based on survey responses modified by recommendations from 10 senior IDC reviewers at the Naval Medical Command and Naval School of Health Sciences.

The model pipeline divides the IDC career into three phases. The Pre-IDC Phase includes the first year of corpsman indoctrination as outlined above and in Table 8. This would include a longer HM "A" School to enable shipboard assignment of E-4 corpsmen with sufficient preparation to support an IDC. The order of the four pre-IDC tours following HM indoctrination was derived from recommendations by 10 senior IDC reviewers at the Naval Medical Command and Naval School of Health Sciences. Pre-IDC FMF assignments may occur during this phase in any of the four tours.

Table 9

A Model IDC Career Pipeline

PHASE	GRADE	YEARS	TRAINING	ASSIGNMENT: SURFACE FORCE	ASSIGNMENT: SUBMARINE FORCE
SENIOR PHASE	HMCM	30 29 28 27 26 25 24	SENIOR ENLISTED/ SGT MAJOR ACADEMY	SENIOR STAFF CONSULTANT DOD MEDCOM OP-09 HSETC CINC HQ FMF HOSPITAL	
				SENIOR TYCOM STAFF HOSP SHIP/TENDER COMMAND HMCS/M	SQDN/TYCOM STAFF HOSP SHIP/TENDER COMMAND HMCS/M
	HMCS	23 22 21		NMPC MEDCOM OP-09 CLINIC HMCS/M SR. NSHS INSTR	NMPC MEDCOM OP-09 CLINIC HMCS/M SR. NUMI INSTR
IDC PHASE	HMC	20 19 18 17 16 15 14	HEALTH RESOURCES MANAGE-MENT	SQDN/TYCOM STAFF HOSPITAL SHIP	SSN/SSBN IDC
				FLEET CLINIC HOSP E-R EPMU JR. NSHS INSTR	
				LARGE COMBATANT IDC (e.g., DD/CG/AE/DDG)	FLEET CLINIC HOSP E-R JR. NUMI INSTRUCTOR SQDN MEDICAL EPMU
	HM1	13 12 11 10	IDC TRAINING	FLEET CLINIC E-R MILITARY SICK CALL	SSN IDC
				SMALL COMBATANT IDC (e.g., MSO/FF/FFG)	
				8425 CERTIFICATION	8402 CERTIFICATION
PRE-IDC	HM2	9 8 7 6		CLINICAL OUTPATIENT TOUR FLEET HOSPITAL OR CLINIC	
			CLASS "C" TECHNICAL SCHOOLS	TECHNICAL SPECIALTY TOUR FLEET HOSPITAL OR CLINIC	
	HM3	5 4 3		SHIPBOARD ADMIN TOUR HOSPITAL SHIP	
	HN	2 1		CLINICAL INPATIENT TOUR FLEET HOSPITAL OR CLINIC	
		0	HM "A"	BASIC HOSP INDOC FMF INDOC	

NOTE: Shaded areas denote Shipboard Duty.

The IDC Phase of the model pipeline includes training and experience that, following certification as an 8425 or 8402, provides tours that permit maximum utilization of skills and knowledge in operational medicine. As can be seen, the IDC Phase differs between surface and submarine IDCs. This is not only to accommodate sub/surface billet differences, but also to shorten surface tours, which is favored by surface IDCs. Shortening the sea/shore rotation cycle among surface IDCs to two years would help reduce the likelihood of "burnout". Also, based on data from this study, shorter surface sea tours could increase the percentage of IDCs who would

serve a second tour prior to 20-year retirement (see Note 2). At present, nearly 100% of submarine IDCs serve two or more tours aboard ship; for surface IDCs the percentage is approximately 50%. Shortening the surface sea/shore rotation cycle could be facilitated by assigning IDCs to their home port clinics/hospitals for their first post-IDC tour shore rotation.

The Senior Phase includes both training and assignments that are commensurate with the high level of responsibility associated with the role of senior and master chief petty officer. During the Senior Phase, the submarine and surface IDC career paths re-converge.

In addition to increasing the likelihood of multiple surface IDC shipboard tours, the pipeline outlined in Table 9 provides a steady progression of increased responsibility commensurate with job experience. An earlier study (Hilton & Hilton, 1985) suggested that placing E-5/6 IDCs on ships with large crews was likely to increase the chance of job failure. Initially assigning first-tour IDCs to smaller combatants is likely to create less pressure while they become familiar with the shipboard routine and medical tasks.

Theoretically, the proposed IDC career pipeline would establish a stronger relationship between job experience and billet responsibility. Furthermore, when considering shore assignments, the pipeline would ensure that the more responsible billets would be held by IDCs with the greatest amount of up-to-date Fleet experience. The proposed pipeline would also increase the likelihood that an IDC would be placed in a shore job that permitted the exercise of patient care skills and knowledge. This career management strategy would be facilitated if there were sufficient rewards such as responsibility pay, early advancement, etc. afforded those who adhered to an IDC career pipeline such as the one described here.

SUMMARY

This report attempted to establish the elements of a comprehensive career development plan for IDC corpsmen. The primary goal of this task was to help the Navy to improve the quality of person-job fit at all stages of a corpsman's career. Better person-job fit would ensure that IDCs had the most comprehensive and appropriate background to undertake one of the most responsible enlisted positions in the Navy. The data presented here were based primarily on survey responses provided by nearly every IDC serving as the senior medical service provider in a shipboard billet.

By and large, the over 350 IDCs participating in this study showed considerable consensus on career development issues. They also showed consistency within Force when between-Force differences might be expected due to different operational environments. IDCs in both submarine and surface Forces emphasized patient care experience as being: (a) valuable preparation for IDC training, (b) a primary source of motivation to become an IDC, (c) an important reason for remaining an IDC, and (d) a critical necessity for maintaining proficiency during shore rotation assignments.

In addition, IDCs generally favored implementation of an IDC personnel qualification system to assist in shipboard orientation. IDCs also favored a program for continuing medical education and recertification.

Finally, it was found that those IDCs who possessed certain traits evidenced the best person-job fit. This latter result offers significant support for creation of an organizational-level IDC career development program.

NOTES

1. The performance rating questionnaire was developed by Mark C. Butler in 1984 for use in organizational development research. To date the instrument has been completed on over 2,000 Navy personnel.
2. IDC shipboard tour information was based on self-reports of the 355 fleet survey respondents. These data indicated that 70% were on their first IDC tour, 23% on their second IDC tour, and 7% on their third or more. Estimated improvement in reassignment rates were based on the number of 3-year tours remaining until 20-year retirement from the time of first IDC shipboard tour.

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UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

AD-A178 695

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS None
2a. SECURITY CLASSIFICATION AUTHORITY N/A	3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited.
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) NHRC Report No. 86-19	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION Naval Health Research Center 6b. OFFICE SYMBOL (If applicable) Code 40	7a. NAME OF MONITORING ORGANIZATION Commander, Naval Medical Command
6c. ADDRESS (City, State, and ZIP Code) P.O. Box 85122 San Diego, CA 92138-9174	7b. ADDRESS (City, State, and ZIP Code) Department of the Navy Washington, DC 20372
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Naval Medical Research & Development Command 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code) NMCNCR Bethesda, MD 20814-5044	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. 65152N; PROJECT NO. M0106; TASK NO. 001; WORK UNIT ACCESSION NO. DN977568

11. TITLE (Include Security Classification)
THE SHIPBOARD INDEPENDENT DUTY HOSPITAL CORPSMAN II: THE OPTIMAL CAREER PIPELINE

12. PERSONAL AUTHOR(S)
Hilton, Thomas F.; Nice, D. Stephen; and Hilton, Susan M.

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Interim	FROM _____ TO _____	1986 July	33

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Independent Duty Hospital Corpsmen; Navy Medicine; Career Development; Performance

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

The IDC career development pipeline described in this report was based primarily on the survey responses of 87% of the IDCs serving aboard ship during 1985 (N=355). Data reflected that corpsmen were attracted to the IDC duty for one of two primary reasons: (a) patient care involvement, or (b) career promotion. Personality was also shown to be a factor in achieving good person-job fit; IDCs with high levels of health service delivery orientation as measured on the Hogan Service Orientation Index were found to have higher performance, better job satisfaction, and increased intent to remain an IDC.

The proposed pipeline incorporated IDC recommendations for extending the length of corpsman basic (PA) school and hospital ward indoctrination. The best preparation for IDC duty was considered to include a hospital inpatient tour, a clinic-based technical tour, a clinic-based patient care tour, and a shipboard administrative tour (perhaps of assisting an IDC). Subsequent to IDC certification, creation of a continuing education program and a personnel qualification standard to maintain and enhance medical skills and knowledge was recommended. In addition, respondents preferred post-IDC shipboard assignments that → (OVER) →

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT	21. ABSTRACT SECURITY CLASSIFICATION
☐ UNCLASSIFIED/UNLIMITED ☒ SAME AS RPT. ☐ DTIC USERS	UNCLASSIFIED

22a. NAME OF RESPONSIBLE INDIVIDUAL	22b. TELEPHONE (Include Area Code)	22c. OFFICE SYMBOL
D. Stephen Nice, Ph.D.	(619) 225-7395	Code 40

DD FORM 1473, 84 MAR — 83 APR edition may be used until exhausted. All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE
UNCLASSIFIED

A

19. Abstract cont.

placed them in patient care roles near Fleet units.

Surface IDCs recommended shortening shipboard tours to two years; submarine corpsmen preferred three-year tours. In order to accommodate shorter surface IDC tours, it is recommended that shipboard tours be more frequent, perhaps on a port and starboard (sea/shore) basis.

Keywords: Medical personnel; Naval personnel; Careers.

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